

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): An image data generating apparatus comprising:

an image data generating mechanism configured to generate image data;
an image output process control information obtaining mechanism configured to obtain image output process control information that designates image process conditions for the generated image data at an output apparatus, wherein the image process control information is determined obtained by combining according to a combination of an image generating characteristic of said image data generating apparatus and with reproduction characteristics of the output apparatus ~~image processing characteristics associated with a predetermined output apparatus, which is configured to provide a visual presentation of an image from said image data; and~~

an output image file assembly mechanism configured to output the generated image data associated with the obtained ~~generate a process control data containing the output image~~ process control information.

Claim 2 (Currently Amended): The image data generating apparatus of claim 1, wherein:

the image process control information and the generated image data are contained in one output ~~file assembly mechanism is configured to include said process control data in an image file that contains said image data.~~

Claim 3 (Currently Amended): The image data generating apparatus of Claim 2, wherein:

said output file is being an Exlf file.

Claim 4 (Currently Amended): The image data generating apparatus of Claim 3, wherein:

the image process control information data being an is stored at a Makernote portion of the Exlf file.

Claim 5 (Currently Amended): The image data generating apparatus of Claim 1, wherein:

the image output process control information contains ~~containing~~ information for controlling the reproduction characteristics of the image data ~~image processing of the image data at the predetermined output apparatus.~~

Claim 6 (Currently Amended): The image data generating apparatus of Claim 5, wherein:
the image output process control information includes gamma correction information.

Claim 7 (Currently Amended): The image data generating apparatus of Claim 6, wherein:
said image process control information data further comprises ~~comprising~~ additional information that is correlated to said image data, said additional information including at least one of color space information, contrast information, color balance information, sharpness information, color correction information, shadow point information, highlight point information, brightness correction information, and highlight color information.

Claim 8 (Currently Amended): The image data generating apparatus of Claim 1, further comprising:

an optional image process condition obtaining mechanism configured to obtain an optional image process condition set by user;

an image control information adding mechanism configured to add the obtained optional image process condition to the image process control information; and

wherein the image process control information obtaining mechanism obtains the image process control information to which the optional image process condition is added
~~output process control information generating mechanism configured to create the output process control information.~~

Claim 9 (Currently Amended): The image data generating apparatus of Claim 1, further comprising:

a storage mechanism that is configured to hold therein the image output process control information, wherein

said image output process control information obtaining mechanism is being configured to obtain said image output process control information from said storage mechanism.

Claim 10 (Currently Amended): The image data generating apparatus of claim 1, further comprising:

a data transfer mechanism configured to transmit the image data and the image process control information data.

Claim 11 (Currently Amended): The image data generating apparatus of claim 1, wherein:
the image data generating apparatus is being at least one of a digital still camera, a digital video camera, and a scanning device.

Claim 12 (Currently Amended): An image data generating apparatus comprising:

an image data generating mechanism configured to generate image data of a subject;
a first ~~image~~ obtaining mechanism configured to obtain first information reflecting image generating characteristics of the image data generating mechanism for faithfully reproducing a color of the subject, the first information being used in color conversion to an absolute color space including reproduction characteristics of predetermined output apparatus, which is configured to provide a visual presentation of an image from said image data;

a second ~~image~~ obtaining mechanism configured to obtain second information reflecting reproduction characteristics of an output apparatus that outputs an image according to image data that is input from the image data generating mechanism, the second information designates an optional image quality adjustment process to image data that is output to the output apparatus for specifying an image quality adjustment process to be performed on said image data by said predetermined output apparatus, the second information including reproduction characteristics of the predetermined output apparatus; and

an output mechanism configured to output the generated image data associated with image process control information including image file assembly mechanism configured to generate an image file containing the image data and at least one of the first information and the second information.

Claim 13 (Currently Amended): The image data generating apparatus of Claim 12, wherein:

the said image file assembly mechanism configured to include the image data, the first information and the second information are contained in one said image file.

Claim 14 (Original): The image data generating apparatus of Claim 12, wherein:

the first information includes at least one of gamma correction information, color space information, and negative image data value information.

Claim 15 (Original): The image data generating apparatus of Claim 12, wherein:
the second information includes at least one of an image correction characteristic associated with generating a print data from an image data.

Claim 16 (Original): The image data generating apparatus of Claim 15, wherein:
the second information includes at least one of contrast information, color balance information, sharpness information, stored color correction information, shadow point information, highlight point information, saturation information, and brightness correction information.

Claim 17 (Currently Amended): The image data generating apparatus of Claim 12, wherein:
the image data generating apparatus ~~is being~~ at least one of a digital still camera, a digital video camera, and a scanning device.

Claim 18 (Currently Amended): An image data generating apparatus, comprising:
means for generating image data;
means for obtaining image output process control information that designates image process conditions for the generated image data at an output apparatus, wherein the image process control information is determined according to a combination of an image generating characteristic of said means for generating image data and reproduction characteristics of the output apparatus and combining the operating characteristic of said means for generating image data with image processing characteristics associated with a predetermined output apparatus, which is configured to provide a visual presentation of an image from said image data; and
means for generating ~~a process control data~~ an output containing the generated image data and the image output process control information.

Claim 19 (Currently Amended): The image data generating apparatus of Claim 18, wherein:

each of said means for generating image data, means for obtaining image process ~~output~~ control information, and means for generating an output is a process control data ~~each~~ ~~being~~ a computer program product having computer readable instructions.

Claim 20 (Currently Amended): The image data generating apparatus of Claim 19, wherein:

the image process control information and the generated image data are contained in one output file ~~means for generating image data including means for including said process control data in an image file that also contains said image data.~~

Claim 21 (Currently Amended): The image data generating apparatus of Claim 18, wherein:

the image output process control information includes gamma correction information.

Claim 22 (Currently Amended): An image data generating apparatus comprising:

means for generating image data of a subject;

means for obtaining first information reflecting image generating characteristics of the means for generating image data, the first information being used in color conversion to an absolute color space for faithfully reproducing a color of the subject, the first information including reproduction characteristics of a predetermined output apparatus, which is configured to provide a visual presentation of an image from said image data;

means for obtaining second information reflecting reproduction characteristics of an output apparatus that outputs an image according to image data that is input from the means for generating image data, the second information designates an optional image quality adjustment process to image data that is output to the output apparatus for specifying an image quality adjustment process to be performed on said image data by said predetermined output apparatus, the second information including reproduction characteristics of the predetermined output apparatus; and

means for outputting the generated image data associated with image process control information including generating an image file containing the image data and at least one of the first information and the second information.

Claim 23 (Currently Amended): The image data generating apparatus of Claim 22, wherein:

said means for outputting the generated ~~generating an image data file~~ includes means for including the image data, the first information and the second information in one output ~~said image~~ file.

Claim 24 (Original): The image data generating apparatus of Claim 22, wherein:

the first information includes at least one of gamma correction formation, color space information, and negative image data value information.

Claim 25 (Original): The image data generating apparatus of Claim 22, wherein:

the second information includes at least one of contrast information, color balance information, sharpness information, stored color correction information, shadow point information, highlight point information, saturation information, and brightness correction information.

Claim 26 (Currently Amended): A method for generating an image data, comprising steps of:

generating image data;

obtaining image output process control information that designates image process conditions for the generated image data at an output apparatus, wherein the image process control information is determined according to a combination of an image generating characteristic of an image data generating apparatus and reproduction characteristics of the output apparatus ~~and combining an operating characteristic of an image capturing apparatus with image processing characteristics associated with a predetermined output apparatus, which is configured to provide a visual presentation of an image from said image data;~~ and

generating an output ~~a process control data~~ containing the generated image data associated with the obtained image output process control information.

Claim 27 (Currently Amended): The method of Claim 26, wherein:

said steps of generating image data, obtaining image output process control information, and generating an output ~~are a process control data being~~ computer-implemented process steps.

Claim 28 (Currently Amended): The method of Claim 27, further comprising a step of:
including said image process control information and data in an image file that also
~~contains~~ said image data in one output file.

Claim 29 (Currently Amended): The method of Claim 26, wherein:
the image ~~output~~ process control information includes gamma correction
information.

Claim 30 (Currently Amended): A method for generating an image data, comprising steps
of:

generating image data of a subject;
obtaining first information reflecting image generating characteristics of an image data
generating apparatus, the first information being used in color conversion to an absolute color
space for faithfully reproducing a color of the subject, the first information including
reproduction characteristics of a predetermined output apparatus, which is configured to
provide a visual presentation of an image from said image data;
obtaining second information reflecting reproduction characteristics of an output
apparatus that outputs an image according to image data that is input from the image data
generating apparatus, the second information designates an optional image quality adjustment
process to image data that is output to the output apparatus for specifying an image quality
adjustment process to be performed on said image data by said predetermined output
apparatus, the second information including reproduction characteristics of the predetermined
output apparatus; and
generating an output containing the generated image data associated with image
process control information including an image file containing the image data and at least one
of the first information and the second information.

Claim 31 (Currently Amended): The method of Claim 30, wherein:
said step of generating an output image file step includes including the image data, the
first information and the second information in one output said image file.

Claim 32 (Original): The method of Claim 30, wherein:

the first information includes at least one of gamma correction information, color space information, and negative image data value information.

Claim 33 (Original): The method of Claim 30, wherein:

the second information includes at least one of contrast information, color balance information, sharpness information, stored color correction information, shadow point information, highlight point information, saturation information, and brightness correction information.

Claim 34 (Currently Amended): A propagated data signal for conveying image data and image processing control data that corresponds with a combined use of an image data generating apparatus and ~~an a-predetermined~~ output apparatus, said propagated data signal comprising:

~~an~~ image data containing digital image data of a subject captured from the image data generating apparatus; and

~~image a~~ process control data, said ~~image~~ process control data including a first data segment containing first information reflecting image generating characteristics of the image data generating apparatus, the first information being used in color conversion to an absolute color space for faithfully reproducing a color of the subject, the first information including reproduction characteristics of the predetermined output apparatus, which is configured to provide a visual presentation of an image from said digital image data, and

a second data segment containing second information reflecting reproduction characteristics of the output apparatus that outputs an image according to image data that is input from the image data generating apparatus, the second information designates an optional image quality adjustment process to image data that is output to the output apparatus for specifying an image quality adjustment process to be performed on said digital image data by said predetermined output apparatus, the second information including reproduction characteristics of the predetermined output apparatus.

Claim 35 (Original): The propagated data signal of Claim 34, wherein:

the first information includes at least one of gamma correction information, color space information, and negative image data value information.

Claim 36 (Original): The propagated data signal of Claim 34, wherein:

the second information includes at least one of contrast information, color balance information, sharpness information, stored color correction information, shadow point information, highlight point information, saturation information, and brightness correction information.

Claim 37 (Currently Amended): The propagated data signal of Claim 34, wherein:

said image data and said image process control data are being included as part of an Exlf file that is embodied in said propagated data signal.

Claim 38 (Currently Amended): An image processing apparatus configured to perform image processing on image data, comprising:

a processor; and

a data retrieval mechanism configured to retrieve said image data and image a process control data associated with the image data, wherein

the image process control data contains image containing output process control information that designates image process conditions for the retrieved image data at an output apparatus, wherein the image process control information is determined according to a combination of an image generating characteristic of an image data generating apparatus and reproduction characteristics of the output apparatus obtained by combining an operating characteristic of an image data generating apparatus and a predetermined output apparatus, which is configured to provide a visual presentation of an image from said image data;

a data providing provide mechanism configured to provide the image data and the image process control data to the processor; and wherein

said processor is being configured to perform image processing on said image data using the image data and the image output process control information.

Claim 39 (Currently Amended): The image processing apparatus of Claim 38, wherein:

if the process control data is not retrieved, the data providing provide mechanism provides the image data and a predetermined image process control data to the processor, and wherein the predetermined image process control data is configured to general purpose image processing.

Claim 40 (Currently Amended): The image processing apparatus of Claim 38, wherein:
said processor is ~~being~~ hosted in a computer.

Claim 41 (Currently Amended): The image processing apparatus of Claim 38, wherein the
~~predetermined~~ output apparatus is ~~being~~ a printer.

Claim 42 (Currently Amended): The image processing apparatus of Claim 38, wherein:
the ~~image file includes~~ said image process control data and said image data are
contained in a single image file.

Claim 43 (Currently Amended): The image processing apparatus of Claim 42, wherein:
the image process control data is ~~being~~ stored at a ~~an~~ Makernote portion of the ExIf
file, and
the data retrieval ~~retrieve~~ mechanism retrieves the Makernote portion to obtain the
image process control data.

Claim 44 (Currently Amended): The image processing apparatus of Claim 42, wherein:
the image ~~output~~ process control information contains ~~containing~~ information for
controlling the reproduction characteristics of image processing of the image data at the
~~predetermined~~ output apparatus.

Claim 45 (Currently Amended): The image processing apparatus of Claim 44, wherein:
the image ~~output~~ process control information includes gamma correction information.

Claim 46 (Currently Amended): The image processing apparatus of Claim 45, wherein:
said image process control information ~~data~~ further comprises ~~comprising~~ additional
information that is correlated to said image data, said additional information including at least
one of color space information, contrast information, color balance information, sharpness
information, color correction information, shadow point information, highlight point
information, brightness correction information, and highlight color information.

Claim 47 (Currently Amended): An image processing apparatus configured to perform image processing on image data of a subject, said image data retrieved from an image file, comprising:

a processor;

a data retrieval mechanism configured to retrieve said image file and provide the image file to the processor, said image file including

first information reflecting image generating characteristics of an image data generating apparatus, the first information being used in color conversion to an absolute color space for faithfully reproducing a color of the subject, the first information including reproduction characteristics of a predetermined output apparatus, which is configured to provide a visual presentation of an image from said image data;

second information reflecting reproduction characteristics of an output apparatus that outputs an image according to image data that is input from an image data generating apparatus, the second information designates an optional image quality adjustment process to image data that is output to the output apparatus for specifying an image quality adjustment process to be performed on said image data by said predetermined output apparatus, the second information including reproduction characteristics of the predetermined output apparatus; wherein

said processor is being configured to implement

a first reproduction mechanism configured to perform image processing on said image data with said first information ~~to faithfully reproduce a color of the subject,~~ and

a second reproduction mechanism configured to perform a reproduction process specified for said image data based on said second information; and

an image data output mechanism configured to output the image data after said image data has been processed by said first reproduction mechanism and said second reproduction mechanism.

Claim 48 (Original): The image processing apparatus of Claim 47, wherein:

the first information includes at least one of gamma correction information, color space information, and negative image data value information.

Claim 49 (Original): The image processing apparatus of Claim 47, wherein:

the second information includes at least one of an image correction characteristic associated with generating a print data from an image data.

Claim 50 (Original): The image processing apparatus of Claim 49, wherein:

the second information includes at least one of contrast information, color balance information, sharpness information, stored color correction information, shadow point information, highlight point information, saturation information, and brightness correction information.

Claim 51 (Original): The image processing apparatus of Claim 47, wherein:

said image processing apparatus includes a printer.

Claim 52 (Currently Amended): An image processing apparatus configured to perform image processing on image data retrieved from an image file, comprising:

a processor; and

means for retrieving ~~retrieved~~ said image file and providing the image file to the processor, said image file including

the image data, and

image a process control data containing image ~~output~~ process control information that designates image process conditions for the retrieved image data at an output apparatus, wherein the image process control information is determined according to a combination of an image generating characteristic of an image data generating apparatus and reproduction characteristics of the output apparatus ~~obtained by combining operating characteristics of an image data generating apparatus and a predetermined output apparatus, which is configured to provide a visual presentation of an image from said image data,~~ wherein

said processor includes ~~including~~ means for processing said image data using the image data and the image ~~output~~ process control information.

Claim 53 (Currently Amended): The image processing ~~Processing~~ apparatus of Claim 52, wherein:

the image file includes said image process control data and said image data in a single file.

Claim 54 (Currently Amended): The image processing apparatus of Claim 53, wherein:
the image output process control information includes gamma correction information.

Claim 55 (Currently Amended): An image processing apparatus configured to perform image processing on image data of a subject, said image data retrieved from an image file, comprising:

a processor; and

means for retrieving ~~retrieved~~ said image file and providing the image file to the processor, said image file including

first information reflecting image generating characteristics of an image data generating apparatus, the first information being used in color conversion to an absolute color space for faithfully reproducing a color of the subject, the first information including reproduction characteristics of a predetermined output apparatus, which is configured to provide a visual presentation of an image from said image data;

second information reflecting reproduction characteristics of an output apparatus that outputs an image according to image data that is input from an image data generating apparatus, the second information designates an optional image quality adjustment process to image data that is output to the output apparatus for specifying an image quality adjustment process to be performed on said image data by said predetermined output apparatus, the second information including reproduction characteristics of the predetermined output apparatus, wherein

said processor is being configured to implement

means for performing image processing on said image data with said first information ~~to faithfully reproduce a color of the subject~~, and

means for performing a reproduction process specified for said image data based on said second information; and

means for outputting the image data after said image data has been processed by said means for performing image processing and said means for performing a reproduction process.

Claim 56 (Original): The image processing apparatus of Claim 55, wherein:

the first information includes at least one of gamma correction information, color space information, and negative image data value information.

Claim 57 (Currently Amended): A method for processing image data, comprising steps of:
retrieving said image data and image process a control information data from an external source;

providing the image data and the image process control information data to the processor, wherein

the image process control information designates image process conditions for the retrieved image data at an output apparatus, and wherein the image process control information is determined according to a combination of an image generating characteristic of an image generating apparatus and reproduction characteristics of the output apparatus data containing output process control information obtained by combining operating characteristics of an image data generating apparatus and a predetermined output apparatus, which is configured to provide a visual presentation of an image from said image data; and
processing said image data using the image data and the image output process control information.

Claim 58 (Currently Amended): The method of Claim 57, wherein:

said image process control information data and said image data are being included in a single image file.

Claim 59 (Currently Amended): The method of Claim 57, wherein:

the processing step includes processing of the image data at the predetermined output apparatus.

Claim 60 (Currently Amended): The method of Claim 59, wherein:

the image output process control information includes gamma correction information.

Claim 61 (Currently Amended): A propagated data signal for conveying image data and image processing control data that corresponds with a combination of an image data

generating apparatus and ~~an a-predetermined~~ output apparatus, said propagated signal comprising:

an image segment containing the image data to be image processed;

an image processing control segment containing the image processing control data for controlling the output apparatus to perform image processing on said image data using the image data and the image processing control data, and wherein the image processing control data includes image output process control information that designates image process conditions for the image data at the output apparatus, and wherein the image process control information is determined according to a combination of an image generating characteristic of the image data generating apparatus and reproduction characteristics of the output apparatus ; ~~which is configured to provide a visual presentation of an image from said image data.~~

Claim 62 (Currently Amended): A computer program product, comprising:

a computer storage medium; and

a computer program code stored in the computer storage medium for implementing an image processing on ~~a the~~ computer, the computer program code having

a first computer code configured to retrieve image data and image process control data associated with the image data, wherein the image process control data contains image containing-output process control information that designates image process conditions for the image data at an output apparatus, and wherein the image process control information is determined according to a combination of an image generating characteristic of an image data generating apparatus and reproduction characteristics of the output apparatus obtained by combining an operating characteristic of an image data generating apparatus and a predetermined output apparatus, which is configured to provide a visual presentation of an image from said image data,

a second computer code configured to perform image processing on the image data using the image data and the image output process control information, if the image process control data is retrieved.

Claim 63 (Currently Amended): A computer program product of Claim 62, further comprising:

a third computer code configured to perform image data processing on the image data using a predetermined image process control data, if the image process control data is not

retrieved, and wherein the predetermined image process control data is configured to general purpose image processing.

Claim 64 (Currently Amended): An image data processing system, comprising:

an image data generating device configured to generate image data;

an image output process control information obtaining mechanism configured to obtain image output process control information that designates image process conditions for the generated image data at an output apparatus, wherein the image process control information is determined according to a combination of an image generating characteristic of said image data generating device and reproduction characteristics of the output apparatus obtained by combining the characteristic of said image data generating device with image processing characteristics associated with a predetermined output device, which is configured to provide a visual presentation of an image from said image data;

an output image file assembly mechanism configured to output the generated image data associated with the obtained ~~generate an image file that includes the image data and the process control data which contains the output~~ process control information in an output file;

a processor; and

a data retrieval mechanism configured to retrieve said output image file and provide the output image file to the processor, wherein

said processor ~~is being~~ configured to perform image processing on said image data using the image data and the image output process control information.

Claim 65 (Original): The system of Claim 64, further comprising:

a personal computer that contains said processor and said data retrieval mechanism.

Claim 66 (Currently Amended): An image data processing system, comprising:

an image data generating apparatus, including

an image data generating mechanism configured to generate image data of a subject and store said image data in an image file,

a first image obtaining mechanism configured to obtain first information reflecting image generating characteristics of the image data generating apparatus, the first information being used in color conversion to an absolute color space for faithfully reproducing a color of the subject, the first information including reproduction characteristics

~~of a predetermined output apparatus, which is configured to provide a visual presentation of an image from said image data,~~

~~a second image obtaining mechanism configured to obtain second information reflecting reproduction characteristics of an output apparatus that outputs an image according to image data that is input from the image data generating apparatus, the second information designates an optional image quality adjustment process to image data that is output to the output apparatus for specifying an image quality adjustment process to be performed on said image data by said predetermined output apparatus, the second information including reproduction characteristics of the predetermined output apparatus, said image file including said first information and said second information; and~~

~~an image processing apparatus, including~~

~~a processor,~~

~~a data retrieval mechanism configured to retrieve said generated image data, said first information, and second information file and provide said generated the image data, said first information and said second information file to the processor, wherein~~

~~said processor is being configured to implement~~

~~a first reproduction mechanism configured to perform image processing on said image data with said first information to faithfully reproduce a color of the subject, and~~

~~a second reproduction mechanism configured to perform a reproduction process specified for said image data based on said second information, and~~

~~an image data output mechanism configured to output the image data after said image data has been processed by said first reproduction mechanism and said second reproduction mechanism.~~

Claim 67 (Currently Amended): An image data processing system, comprising:

means for generating image data;

means for obtaining image output process control information that designates image process conditions for the generated image data at an output apparatus, wherein the image process control information is determined according to a combination of an image generating characteristic of said means for generating image data and reproduction characteristics of the output apparatus and combining the operating characteristic of said means for generating image data with image processing characteristics associated with a predetermined output

~~apparatus, which is configured to provide a visual presentation of an image from said image data;~~

means for generating an image file with image a process control data containing the image output process control information;

a processor; and

means for retrieving ~~retrieved~~ said image file and providing the image file to the processor, said image file including

the image data, and

the image process control data, wherein

said processor includes ~~including~~ means for processing said image data using the image output process control information.

Claim 68 (Currently Amended): An image data processing system, comprising:

means for generating an image file, including,

means for generating image data of a subject,

means for obtaining first information reflecting image generating characteristics of the means for generating image data, the first information being used in color conversion to an absolute color space for faithfully reproducing a color of the subject, the first information including reproduction characteristics of a predetermined output apparatus, which is configured to provide a visual presentation of an image from said image data,

means for obtaining second information reflecting reproduction characteristics of an output apparatus that outputs an image according to image data that is input from the means for generating image data, the second information designates an optional image quality adjustment process to image data that is output to the output apparatus or specifying an image quality adjustment process to be performed on said image data by said predetermined output apparatus, the second information including reproduction characteristics of the predetermined output apparatus, and

means for generating the image file containing the image data and at least one of the first information and the second information; and

an image processing apparatus including,

a processor, and

means for retrieving ~~retrieved~~ said image file and providing said ~~the~~ image file to the processor, said image file including
the image data, the first information and the second information, wherein
said processor includes ~~including~~ means for processing said image data using the first information and the second information.

Claim 69 (New): An image data generating apparatus comprising:

an image data generating module configured to generate image data of a subject by photoelectric converter;

a storage module configured to store image process control information that is determined according to an output result of the generated image data at an output apparatus, the image process control information designating an image processing condition for image data that is output to the output apparatus;

an image process control information obtaining module configured to obtain the image process control information from the storage module; and

an output module configured to output the generated image data associated with the obtained image process control information.

Claim 70 (New): An image data generating apparatus according to claim 69, wherein the image generating apparatus includes a digital still camera.

Claim 71 (New): A digital still camera comprising:

an image data generating module that generates image data;

an image process control information obtaining module that obtains image process control information, wherein the image process control module is determined according to a combination of image generating characteristics of the digital still camera and reproducing characteristics of an output apparatus, wherein the image process control information designates an image processing condition for image data that is output to the output apparatus; and

an output module that outputs the generated image data associated with the obtained image process control information.